

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) ~~Method~~ A method for recycling ~~a used-up plastic products~~
product comprising ~~steps of:~~

crushing the used-up plastic product into fine chips having a diameter of 2 - 4 mm;

washing the ~~crushed plastics~~ fine chips;

drying the ~~crushed plastics~~ fine chips; and

feeding the ~~crushed plastics~~ fine chips into a molding line directly without pelletizing to
make a re-molded plastic ~~products~~ product.

2. (Currently Amended) ~~Method~~ The method as defined in claim 1, wherein the molding
line includes ~~a~~ an injection molding machine ~~of which~~ comprising a nozzle,

wherein the nozzle comprises ~~has~~ a filter to remove foreign matters from molten plastic
formed from the ~~of~~ crushed ~~one~~ fine chips.

3. (Currently Amended) ~~Method~~ The method as defined in claim 1 or 2, wherein the
used-up plastic product is a plastic component of a Film with Lens Unit.

4. (Currently Amended) ~~Method~~ The method as defined in claim 1 or 2, the re-molded plastic product is a plastic component of a Film with Lens unit.

5. through 13. (Cancelled)

14. (Currently Amended) ~~Method~~ A method for recycling used-up plastic products comprising ~~steps of:~~

- coarse-crushing used-up plastic products to form coarse chips;
- separating the ~~crushed plastics~~ coarse chips from other foreign matters;
- fine-crushing the ~~separated plastics~~ coarse chips to form fine chips;
- washing the ~~fine-crushed plastics~~ fine chips ~~by the process~~ using a circulation flow including a spiral flow in which interaction between ~~crushed plastics~~ the fine chips helps themselves clean the fine chips without washing agents;
- drying the washed ~~plastic~~ fine chips;
- removing metallic matters mingled in the ~~crushed plastics~~ fine chips by using a metal detector; and
- feeding the dried ~~crushed plastics~~ fine chips directly to an injection molding machine ~~of which~~ comprising a nozzle part is equipped with a filter and a flow-switching mechanism for cleaning the filter by backwash reverse filtration.

15. (New) The method as recited in claim 1, further comprising, prior to crushing the used up plastic product into fine chips, crushing the used-up plastic product into coarse chips having a diameter of 20 - 60 mm.

16. (New) The method as recited in claim 15, further comprising, between crushing the used up plastic product into coarse chips and into fine chips, separating the coarse chips from foreign matters by airflow separation.

17. (New) The method as recited in claim 1, further comprising, between drying the fine chips and feeding the fine chips into a molding line, detecting and separating any metallic substances from the fine chips by eddy current.

18. (New) The method as recited in claim 1, wherein washing the fine chips comprises:
mixing the fine chips with washing liquid in a washing tank;
draining the fine chips and washing liquid through a sink hole in the bottom of the washing tank;

circulating the fine chips and washing liquid through a circulating pipeline; and
ejecting the fine chips and washing liquid against a punched plate side of the washing tank to allow some of the washing liquid carrying foreign objects to pass through and be separated from the fine chips.

19. (New) The method as recited in claim 18, further comprising, after the fine chips and washing liquid are ejected against the punched plate:

draining the fine chips and remaining washing liquid through the sink hole; and

repeating the circulating, ejecting and draining of the fine chips and washing liquid a predetermined number of times until the fine chips are sufficiently cleaned.

20. (New) The method as recited in claim 19, further comprising, after the fine chips and washing liquid have been circulated, ejected and drained a predetermined number of times, directing the fine chips and washing liquid to a drainer basket, and separating the washing liquid from the fine chips.

21. (New) The method as recited in claim 19, wherein, when the fine chips and remaining washing liquid travel between the punched plate and the sink hole, they travel in a stable spiral flow around the sides of the washing tank.

22. (New) The method as recited in claim 19, wherein the sink hole is partially open to air.

23. (New) The method as recited in claim 1, further comprising, in an injection molding machine arranged in the molding line:

melting the fine chips to form molten plastic; and

passing the molten plastic through a cylindrical wall shaped filter, wherein:
during normal injection molding operations, the filter is arranged so that molten plastic passes in a first radial direction through the filter by way of adjustable pathways; and
during a cleaning operation, the adjustable pathways are adjusted so that molten plastic passes in a second radial direction opposite the first radial direction to clean the filter.

24. (New) The method as recited in claim 14, wherein the coarse chips have a diameter of 20-60 mm.

25. (New) The method as recited in claim 14, wherein the fine chips have a diameter of 2-3 mm.

26. (New) The method as recited in claim 14, wherein separating the coarse chips from other foreign matters comprises utilizing airflow separation.

27. (New) The method as recited in claim 14, wherein washing the fine chips further comprises:

mixing the fine chips with washing liquid in a washing tank;
draining the fine chips and washing liquid through a sink hole in the bottom of the washing tank;
circulating the fine chips and washing liquid through a circulating pipeline; and

ejecting the fine chips and washing liquid against a punched plate side of the washing tank to allow some of the washing liquid carrying foreign objects to pass through and be separated from the fine chips.

28. (New) The method as recited in claim 27, further comprising, after the fine chips and washing liquid are ejected against the punched plate:

draining the fine chips and remaining washing liquid through the sink hole; and
repeating the circulating, ejecting and draining of the fine chips and washing liquid a predetermined number of times until the fine chips are sufficiently cleaned.

29. (New) The method as recited in claim 28, further comprising, after the fine chips and washing liquid have been circulated, ejected and drained a predetermined number of times, directing the fine chips and washing liquid to a drainer basket, and separating the washing liquid from the fine chips.

30. (New) The method as recited in claim 27, wherein the sink hole is partially open to air.

31. (New) The method as recited in claim 14, further comprising, in the injection molding machine:

melting the fine chips to form molten plastic; and

passing the molten plastic through the filter, wherein:

the filter comprises a cylindrical wall shaped filter;

during normal injection molding operations, the filter is arranged so that molten plastic passes in a first radial direction through the filter by way of adjustable pathways; and

during a cleaning operation, the adjustable pathways are adjusted so that molten plastic passes in a second radial direction opposite the first radial direction to clean the filter by backwash reverse filtration.